

# Chapter III

## Status of CERCLA Activities at Department of Energy Sites

### **III. STATUS OF CERCLA ACTIVITIES AT DEPARTMENT OF ENERGY SITES**

This section of the report provides information on the U.S. Department of Energy's (DOE's) progress in reaching Interagency Agreements (IAGs); public comments regarding proposed IAGs; instances in which no IAG has yet been reached; progress in conducting Remedial Investigations/Feasibility Studies (RI/FSs); progress in conducting remedial actions and response activities at National Priorities List (NPL) sites; and progress in conducting remedial actions at non-NPL sites.

#### **Identification of NPL and Non-NPL Sites**

There are currently 21 DOE sites on the NPL. These sites are presented by state on Table III-1. Table III-1 also includes information relating to when each site was placed on the NPL and the status of the IAG for the site. Figure I-1 shows the location of these facilities. The Hanford Site is presented as one site on the figure; however, three sites (Areas 100, 200, and 300) are listed separately on the NPL.

#### **III.A. Progress in Reaching Interagency Agreements**

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(e)(2) requires that within 180 days after the U.S. Environmental Protection Agency's (EPA's) review of an RI/FS, the Federal facility must enter into an IAG (i.e., an agreement between DOE, EPA, and often the affected state) for the expeditious completion of all necessary remedial action. The DOE has, however, entered into IAGs addressing both the RI/FS and the implementation of remedial action before the RI/FS is completed at all of its NPL listed sites. Interagency Agreements are revised, as necessary, such as the Hanford Tri-Party Agreement documents in 1994 and the Rocky Flats Cleanup Agreement in 1996 in order to incorporate new information, adjust schedules, and address changing conditions.

Interagency Agreements are known by different names at different sites. The DOE has entered into the following types of IAGs addressing CERCLA remediation: Federal Facility Agreements (FFAs), Federal Facility Consent Agreements (FFCAs), and a Tri-Party Agreement (TPA) at Hanford. The names of the IAGs used by the sites are those cited in this report.

The sites for which IAGs had not been concluded at the end of FY 97 (Laboratory for Energy-Related Health Research, CA and Pantex Plant, TX) were added to the NPL during fiscal year 1994 (FY 94). IAGs are currently being negotiated at these sites. NPL deletion activities are in progress at Pantex, and if successful, an IAG will not be required. The DOE has concluded an IAG within 180 days after EPA review of an RI/FS at all NPL sites where RI/FSs have been completed.

#### **III.B. Specific Cost Estimates and Budgetary Proposals To Support Environmental Restoration Activities Required by the IAG**

The site summaries presented in Sections IV contain dollar amounts that support the environmental restoration activities that are being performed pursuant to CERCLA and/or the Resource Conservation and Recovery Act (RCRA) as specified in the IAGs. Consequently, these dollar amounts may not represent the entire environmental restoration budget for the site.

The fiscal year (FY) 97 amount in each summary box represents actual dollars spent in FY 97. The FY 98 amount is the appropriated funding, and the FY 99 amount is the request in the President's Budget.

Table III-1. U.S. Department of Energy Facilities on the National Priorities List

STATE	SITE NAME	DATE OF FR <sup>1</sup> NOTICE OF NPL LISTING	INTERAGENCY AGREEMENT (IAG) STATUS
California	Laboratory for Energy-Related Health Research (LEHR)	05/31/94	Memorandum of Agreement with University of California, Davis was signed in June 1997, delineating each party's responsibilities. It is anticipated that the Federal Facilities Agreement will be negotiated by the end of FY 99.
	Lawrence Livermore National Laboratory - Livermore Site	07/22/87	Federal Facility Agreement executed on November 1, 1988.
	Lawrence Livermore National Laboratory - Site 300	08/30/90	Federal Facility Agreement signed on June 29, 1992.
Colorado	Rocky Flats Environmental Technology Site (formerly the Rocky Flats Plant)	10/04/89	On July 19, 1996, the Rocky Flats Cleanup Agreement was signed by DOE, EPA Region VIII, and the Colorado Department of Public Health and Environment.
Idaho	Idaho National Engineering & Environmental Laboratory (includes Argonne National Laboratory - West)	11/21/89	Federal Facility Agreement/Consent Order executed on December 9, 1991.
Kentucky	Paducah Gaseous Diffusion Plant	05/31/94	Federal Facility Agreement signed in February 1998.
Missouri	St. Louis Site (includes St. Louis Airport Site and Vicinity Properties, Latty Avenue Properties) <sup>2</sup>	10/04/89	Federal Facility Agreement signed on June 26, 1990.
	Weldon Spring Site Remedial Action Project (formerly referred to as Weldon Spring Quarry and Feed Materials Plant and Raffinate Pits Site)	07/22/87, 03/13/89 <sup>3</sup>	Federal Facility Agreement signed on August 22, 1986; amended June 30, 1992.
New Jersey	Maywood Site <sup>2</sup>	09/08/83	Federal Facility Agreement signed on July 23, 1990, and made effective in April 1991.
	Wayne Site <sup>2</sup>	09/21/84	Federal Facility Agreement signed on July 23, 1990, and made effective in April 1991.
New York	Brookhaven National Laboratory	11/21/89	IAG executed on February 28, 1992, and made effective May 27, 1992.

Table III-1. U.S. Department of Energy Facilities on the National Priorities List (Continued)

STATE	SITE NAME	DATE OF FR <sup>1</sup> NOTICE OF NPL LISTING	INTERAGENCY AGREEMENT (IAG) STATUS
Ohio	Fernald Environmental Management Project	11/21/89	Consent Agreement made effective on June 29, 1990, and subsequently amended (last amendment made on May 15, 1997).
	Mound Plant	11/21/89	Federal Facility Agreement executed on August 6, 1990; amended on July 15, 1993.
South Carolina	Savannah River Site	11/21/89	IAG executed on January 15, 1993, and made effective on August 16, 1993.
Tennessee	Oak Ridge Reservation	11/21/89	IAG made effective on January 1, 1992.
Texas	Pantex Plant	05/31/94	Federal Facility Agreement currently not active because NPL deletion activities are in progress.
Utah	Monticello Mill Site	11/21/89	Federal Facility Agreement executed on December 22, 1988. <sup>4</sup>
	Monticello Vicinity Properties	06/10/86	Federal Facility Agreement executed on December 22, 1988. <sup>4</sup>
Washington	Hanford Site - Area 100	10/04/89	Tri-Party Agreement signed on May 15, 1989; amended in 1991, 1992, 1994, 1995, and February 1996.
	Hanford Site - Area 200	10/04/89	Tri-Party Agreement signed on May 15, 1989; amended in 1991, 1992, 1994, 1995, and February 1996.
	Hanford Site - Area 300	10/04/89	Tri-Party Agreement signed on May 15, 1989; amended in 1991, 1992, 1994, 1995, and February 1996.

<sup>1</sup> FR = *Federal Register*

<sup>2</sup> Congress directed DOE to remediate these sites. The states (New Jersey and Missouri) are not parties to these IAGs. Responsibility for this and other FUSRAP sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

<sup>3</sup> The Feed Materials Plant and Raffinate Pits were added to the site 3/13/89.

<sup>4</sup> One IAG was developed for both Monticello sites, but the sites are listed separately on the NPL.

### **III.C. Public Comments Regarding Proposed Interagency Agreements**

During FY 97 no new IAGs were proposed. Consequently, there were no public comments regarding proposed IAGs.

*Laboratory for Energy-Related Health Research (LEHR)* - FFA is being negotiated.

### **III.D. Instances in Which No Interagency Agreement Was Reached**

There is no instance where DOE has failed to reach an IAG within 180 days of the completion of the EPA's review of an RI/FS. As mentioned earlier, the NPL sites where DOE has not yet entered into IAGs—the Laboratory for Energy-Related Health Research (LEHR), CA and Pantex Plant, TX—were placed on the NPL in FY 94. The DOE expects to sign IAGs for these facilities before the RI/FSs for these facilities are completed. Ongoing NPL deletion activities at Pantex Plant, if successful in the future, may make an IAG unnecessary.

*Laboratory for Energy-Related Health Research (LEHR)* - A MOA between DOE and the University of California, Davis was completed in FY 97. The FFA is being negotiated and is scheduled to be finalized during FY 99.

### **III.E. Progress in Conducting Remedial Investigations/Feasibility Studies at NPL Sites**

CERCLA Section 120(e)(1) specifies that RI/FS work must be initiated within six months after a site is listed on the NPL. RI/FS work was initiated within this statutory time frame at all DOE facilities on the NPL (see Table III-1).

Highlights of FY 97 RI/FS accomplishments are listed below.

*Brookhaven National Laboratory* - One Remedial Investigation/Remedial Action (RI/RA), two Feasibility Studies, two Proposed Plans (PP), and one Record of Decision (ROD) were submitted to the EPA and State of New York.

*Fernald Environmental Management Project* - Records of Decision have been approved for all of the five Operable Units (OUs). Implementation of Remedial Design/Remedial Action Work Plans is underway for all of the five OUs.

*Hanford Site Area 100* - One ROD Declaration; one ROD Amendments; one Remedial Design completed; one Remedial Design in progress; one remediation initiated; one Limited Field Investigation Report submitted; one PP completed.

*Hanford Site Area 200* - One ROD Amendment; one Remedial Design in progress; one PP completed.

*Hanford Site Area 300* - One remediation initiated; one Limited Field Investigation Report submitted.

*Hanford Site Area 1100* - Deleted from the NPL.

*Idaho National Engineering & Environmental Laboratory* - RI/FS activities are complete or underway at all of the ten waste area groups (WAGs).

***Laboratory for Energy-Related Health Research (LEHR)*** - The RI/FS activities for all areas where DOE is responsible were conducted.

***Lawrence Livermore National Laboratory - Main Site*** - All RI/FS activities were completed.

***Lawrence Livermore National Laboratory - Site 300*** - General Services Area (GSA) OU FS, PP, and Draft ROD have been completed. Building 834 OU Title I Design for Surface Water Drainage Project was completed. Pit 6 OUs FS was accepted as an Engineering Evaluation/Cost Analysis (EE/CA) and capping completed. Site 300 Site Wide ROD is scheduled for FY 2000.

***Maywood Site*** - DOE and EPA Region II were negotiating a schedule for issuing a Proposed Plan for the site. Responsibility for this and other FUSRAP sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

***Monticello Mill Site*** - The scope of the OU 3 groundwater modeling effort was concurred upon by the regulatory agencies. Soil, sediment, surface water, groundwater, and biota sampling in support of the RI was completed in early FY 97.

***Mound Plant*** - In FY 97, EPA, the Ohio Environmental Protection Agency and DOE determined that 156 potential release sites required no further assessment, 14 potential release sites required a response action, and 39 were determined to require further assessment before a decision could be made about the action.

***Oak Ridge Reservation*** - Remedial Investigations and assessments were completed leading to five RODs and seven Action Memoranda.

***Paducah Gaseous Diffusion Plant*** - One ROD was approved, three innovative remedial technologies were demonstrated, and one Interim Remedial Action construction project was completed.

***Pantex Plant*** - In FY 97, the assessment phase for four projects was completed.

***Rocky Flats Environmental Technology Site*** - Operable Unit 6 RFI/RI was submitted for regulatory approval and the Final Mound Site Plume Decision Document was issued in FY 97. All assessments have been completed.

***Savannah River Site*** - Nine Facility Investigation/Remedial Investigations were submitted in FY 97: six Bingham Pump Outage Pits and three Central Shops Burning Rubble Pits. Twenty-four site evaluation reports were issued and a total of 30 no further actions were approved. Additional efforts included six field investigation starts.

***St. Louis Site*** - The FS was completed and submitted to EPA and the State of Missouri for review. EPA and DOE have agreed to postpone the submittal of the PP to accommodate recommendations from the St. Louis Citizens Remediation Task Force on a selected remedy. An EE/CA for an Interim Action at the St. Louis Airport Site and Action Memorandum were completed in September 1997. Responsibility for this and other FUSRAP sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

***Wayne Site*** - The PP for the site was developed, EPA Region II provided comments on the Plan in September 1995, and it was to be released for public comment in FY 98 after resolution with the EPA. DOE and EPA Region II were negotiating a schedule for issuing a PP for the site. Responsibility for this and other FUSRAP

sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

***Weldon Spring Site Remedial Action Project*** - The Quarry Residuals Draft Remedial Investigation/Baseline Risk Assessment (RI/BRA) was submitted to the EPA for approval in December 1996. The Site Groundwater Draft Feasibility Study/Proposed Plan was submitted to the EPA in August 1997.

### **III.F. Progress in Conducting Remedial Actions at NPL Sites**

CERCLA Section 120(e)(2) requires that substantial, continuous, physical, onsite remedial action commence at each facility not later than 15 months after completion of the RI/FS. During FY 97, several sites made significant progress in their remedial actions. Highlights of some of the activities that occurred in FY 97 are listed below.

***Brookhaven National Laboratory*** - Construction of the OU IV remedy was initiated.

***Fernald Environmental Management Project*** - The On Site Disposal Facility (OSDF) was ready at the end of FY 97 to receive the first waste placement. The first waste was placed in the OSDF in December 1997. The waste pits cleanup contract was awarded to the IT Corporation, who will receive payment for the waste that is shipped. Pre-final South Plume Optimization Design Package has been submitted, and a preliminary resolution of Ohio's Natural Resource Damage Claim has been negotiated.

***Hanford Site (Areas 100, 200, 300, and 1100)*** - Removed/disposed of more than 440 thousand tons of contaminated soil from the 100 Area and 30 thousand tons from the 300 Area. Extracted and treated groundwater at 200-UP-1 and 200-ZP-1 pump and treat systems. Extracted carbon tetrachloride at 200-ZP-1.

***Idaho National Engineering & Environmental Laboratory*** - No Further Action determinations were approved for 22 potential release sites following the guidance as outlined in the FFA/Consent Order.

***Lawrence Livermore National Laboratory - Livermore Site*** - Currently, four permanent groundwater treatment facilities, six portable groundwater treatment facilities, and one soil vapor extraction unit are operating. Hydraulic capture of the western offsite plume was established, and contaminant concentrations were dramatically reduced.

***Maywood Site*** - Remedial action of an additional seven vicinity properties was completed during FY 97 and the remainder of the Maywood Storage Pile was removed and disposed. Responsibility for this and other FUSRAP sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

***Mound Plant*** - Air Sparging/Soil Vapor Extraction was being installed to enhance and supplement the OU 1 ROD remedy which required pumping and treating volatile organic compound contaminated groundwater for the next 30 years. This system will be completed in FY 98 and is anticipated to expedite the cleanup within the next five years.

***Monticello Mill Site*** - At the Mill Site OU 1, repository excavation and liner installation were completed early in FY 97. Six hundred and ten thousand cubic yards of tailings material were placed in the onsite repository. At the Mill Site OU 2, remedial action began and was completed on one property in FY 97.



**Monticello Vicinity Properties** - Remedial actions were completed for 18 Monticello Vicinity Properties in FY 96. Remedial actions on 414 vicinity properties out of a project total of 420 properties have been completed through FY 97.

**Oak Ridge Reservation** - Five interim actions were initiated, two removal actions and one remedial action were completed.

**Rocky Flats Environmental Technology Site** - Under the Rocky Flats Cleanup Agreement, cleanup actions will be undertaken as removal or interim actions.

**Savannah River Site** - 29 remedial actions were initiated. There were 150 thousand pounds of solvents removed from the A/M Area. There were eight records of decision and six proposed plans completed in FY 97.

**Weldon Spring Site Remedial Action Project** - Construction of the Onsite Disposal Facility began in December 1996. All of the 27 building foundations were removed by July 1997. Construction of the Chemical Stabilization/Solidification Facility was initiated in May 1997. Remediation of Army vicinity properties began in August 1997.

### **III.G. Progress in Conducting Removal and Interim Actions at NPL Sites**

Response actions other than remedial action activities were taken during FY 97. These were primarily removal or interim actions designed to provide prompt or immediate response to actual or potential threats of a release of hazardous substances to the environment. Highlights of some of the activities that occurred in FY 97 are listed below.

**Brookhaven National Laboratory** - The “former” landfill capping was completed. Public water was provided to more than 1300 residences. Chemical holes buried waste was excavated. Operable Unit I, OF III and Tritium Groundwater Systems became operational.

**Fernald Environmental Management Project** - All Removal Actions were either completed or incorporated into RD/RA Work Plans.

**Idaho National Engineering Laboratory** - Activities on four removal actions/interim actions are completed. Activities continued on four other removal actions/interim actions.

**Lawrence Liver more National Laboratory - Site 300** - Three interim groundwater/vapor treatment facilities continued operations. Initiated removal action at Pit 6. Submitted Engineering Evaluation/Cost Analysis Report for Building 815 Operable Unit 4.

**Laboratory for Energy-Related Health Research (LEHR)** - Removal Actions are being planned in the development of an EE/CA for the Southwest Trenches area.

**Maywood Site** - The remainder of the Maywood Storage Pile was removed and disposed of. Responsibility for this and other FUSRAP sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

**Oak Ridge Reservation** - Seven Action Memoranda were signed for interim actions at the East Tennessee Technology Park (formerly K-25), Oak Ridge National Lab, and Y-12 Plant.



***Paducah Gaseous Diffusion Plant*** - Construction of one Interim Remedial Action was completed.

***Pantex Plant*** - Nineteen release sites were closed out in FY 97. A high-explosive-contaminated groundwater treatment system continued operation in FY 97.

***Rocky Flats Environmental Technology Site*** - Continuation of the groundwater collection and treatment Interim Remedial Action (IRA) facility at OF 1, a surface water collection and treatment IRA at OF 2 will be replaced by a passive barrier treatment system for seep 059, and the seep water collection and treatment for OF 7 continued operation throughout FY 97. Work was completed in FY 97 on Option B Offsite Water Projects to replace the drinking-water supply for the city of Broomfield, Colorado. The projects completed were the Broomfield Water Treatment Plant and the water pipeline. Accelerated action was completed for the Mound Site Source Removal (Individual Hazardous Substance Site [IHSS] 113).

***Savannah River Site*** - There were 11 removal actions performed in the areas of the reactor seepage basins and coal pile runoff basins. Contaminated soil and vegetation were removed at several sites. Seven interim actions were completed.

***St. Louis Site*** - Remedial Action at an additional 14 vicinity properties was completed during FY 97. An Interim Removal Action at SLAPS also began and ten Downtown Site buildings were demolished. Responsibility for this and other FUSRAP sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

***Wayne Site*** - A non-time critical removal action was initiated in FY 95 to dispose of contaminated material from the interim storage pile. The waste was disposed of at a commercial disposal facility in Utah. Approximately 75 percent of the storage pile was removed in FY 97. Responsibility for this and other FUSRAP sites was transferred by Congress to the Army Corps of Engineers under the Energy and Water Development Appropriations Act, 1998.

***Weldon Spring Site Remedial Action Project*** - Additional information on cleanup initiatives undertaken at DOE NPL facilities is provided in the detailed narratives found in Section IV of this report.

### **III.H. Progress in Performing Cleanup Activities at Facilities Not on the NPL**

Many DOE facilities that are not listed on the NPL are conducting cleanup activities. Highlights of some of the activities that occurred in FY 97 are presented below.

***Nevada Test Site*** - The Underground Test Area regional groundwater modeling effort was completed in September 1996. Evaluation of model results is continuing. Corrective Action Unit - Specific Groundwater Modeling began in FY 97 with Frenchman Flats.

***Kansas City Plant*** - In FY 97, Remedial actions were completed for one release site at the Trichloroethylene (TCE) Still Area, partially completed at the Maintenance Vehicle Repair Shop Sump (MVRSS) and groundwater treatment and monitoring continued. Additionally, activities related to advanced technology application to existing groundwater treatment to reduce treatment time and ultimate cost continued in FY 97.